

WHAT IS CLAIMED IS:

*Sub A1*

1. A method of processing an organic chlorine

compound for decomposing and eliminating the organic chlorine  
compound in an object to be processed,

5 said method comprising a biological treatment process  
of causing a first microorganic body capable of oxidizing  
reduced nitrogen to come into contact with said object to  
be processed, and biologically processing said object to  
be processed in a state containing said first microorganic  
body, so as to decompose said organic chlorine compound.

10 2. A method of processing an organic chlorine  
compound according to claim 1, further comprising a reduced  
nitrogen adding process for adding reduced nitrogen to said  
object to be processed.

15 3. A method of processing an organic chlorine  
compound according to claim 1, wherein said biological  
treatment process comprises:

20 an aerobic treatment process of oxidizing reduced  
nitrogen contained in said object to be processed with said  
first microorganic body and decomposing said organic chlorine  
compound in an aerobic atmosphere.

*Sub A2*

25 4. A method of processing an organic chlorine  
compound according to claim 1, wherein said biological  
treatment process comprises:

an anaerobic treatment process in which said object  
to be processed containing said first microorganic body

keeping a biological activity thereof by way of a biological treatment in an aerobic atmosphere is held in an anaerobic atmosphere.

5. A method of processing an organic chlorine compound according to claim 1, further comprising:

an oxidized nitrogen eliminating process of reducing and eliminating oxidized nitrogen contained in said object to be processed with a second microorganic body capable of reducing oxidized nitrogen in an anaerobic atmosphere.

10. A method of processing an organic chlorine compound according to claim 3, wherein said aerobic treatment process has:

a first microorganic body adding step of adding said first microorganic body to said object to be processed;

15. a reduced nitrogen adding step of adding reduced nitrogen to said object to be processed; and

a decomposing step of supplying a gas containing oxygen to said object to be processed, so as to form an aerobic atmosphere, and causing said first microorganic body to oxidize reduced nitrogen and decompose said organic chlorine compound.

7. A method of processing an organic chlorine compound according to claim 5, wherein said oxidized nitrogen eliminating process has:

25. a second microorganic body adding step of adding said second microorganic body to said object to be processed;

a carbon source adding step of adding to said object to be processed an organic carbon source which becomes a nutrient for said second microorganic body; and

5 an eliminating step of blocking supply of a gas containing oxygen to said object to be processed, so as to form an anaerobic atmosphere, and causing said second microorganic body to reduce and eliminate said oxidized nitrogen.

10 8. A method of processing an organic chlorine compound according to claim 4,

wherein, in said aerobic treatment process, supply of a gas containing oxygen to said object to be processed is blocked, so as to form an anaerobic atmosphere, and said anaerobic atmosphere is maintained.

15 9. A method of processing an organic chlorine compound according to claim 3, further comprising:

a mixing process of an object to be processed, in which said object to be processed in at least one of said aerobic treatment process, said oxidized nitrogen eliminating process, and said anaerobic treatment process is added by another object to be processed, different therefrom, containing an organic chlorine compound.

20 10. A method of processing an organic chlorine compound according to claim 1, wherein, as said first microorganic body and/or second microorganic body, those 25 in a dehydrated cake form whose moisture is at least partly

~~eliminated or in a lyophilized powder form are used.~~

11. A method of processing an organic chlorine compound according to claim 1, further comprising a slurry-forming process of causing at least one of said object to be processed, said first microorganic body, and said second microorganic body to become slurry.

~~12. A method of processing an organic chlorine compound according to claim 3, wherein said aerobic treatment process has:~~

10 a pH adjusting step of adjusting the pH of said object to be processed containing said first microorganic body and reduced nitrogen to a range of 5 to 9; and/or

a desalting step of adjusting said salt concentration of said object to be processed to 4% or lower.

15 13. A method of processing an organic chlorine compound according to claim 2, wherein, in said reduced nitrogen adding process and/or reduced nitrogen adding step, reduced nitrogen is added to said object to be processed such that the content of said reduced nitrogen with respect to 1 ng of said organic chlorine compound becomes 0.01 to 20 10.0 g-N.

25 14. A method of processing an organic chlorine compound according to claim 4, wherein the temperature of said object to be processed is held at 15°C or higher in said anaerobic treatment process.

15. An apparatus for processing an organic chlorine

compound, in which the organic chlorine compound in an object to be processed is decomposed and eliminated, said apparatus comprising:

5                   a biological treatment section in which a first microorganic body capable of oxidizing reduced nitrogen and said object to be processed come into contact with each other, and said object to be processed in a state containing said first microorganic body is biologically processed, so as to decompose said organic chlorine compound.

10                 16. An apparatus for processing an organic chlorine compound according to claim 15, further comprising a reduced nitrogen adding section for adding reduced nitrogen to said object to be processed.

15                 17. An apparatus for processing an organic chlorine compound according to claim 15, wherein said biological treatment section comprises:

20                 an aerobic treatment section, formed with an aerobic atmosphere, in which reduced nitrogen contained in said object to be processed is oxidized by said first microorganic body, and said organic chlorine compound is decomposed.

18. An apparatus for processing an organic chlorine compound according to claim 15, wherein said biological treatment section comprises:

25                 an anaerobic treatment section, formed with an anaerobic atmosphere, for holding in said anaerobic atmosphere said object to be processed containing said first

microorganic body keeping a biological activity by way of a biological treatment in an aerobic atmosphere.

19. An apparatus for processing an organic chlorine compound according to claim 15, further comprising:

5 an oxidized nitrogen eliminating section in which oxidized nitrogen contained in said object to be processed is reduced and eliminated by a second microorganic body capable of reducing said oxidized nitrogen.

10 20. An apparatus for processing an organic chlorine compound according to claim 17, wherein said aerobic treatment section comprises:

a first microorganic body adding section for adding said first microorganic body to said object to be processed;

15 a reduced nitrogen adding section for adding reduced nitrogen to said object to be processed;

a diffuser section for sending a gas containing oxygen to said object to be processed; and

20 a first reaction treatment section in which said object to be processed is supplied, and said first microorganic body oxidizes reduced nitrogen and decomposes said organic chlorine compound.

21. An apparatus for processing an organic chlorine compound according to claim 19, wherein said oxidized nitrogen eliminating section has:

25 a second microorganic body adding section for adding a second microorganic body to said object to be processed;

a carbon source adding section for adding to said object to be processed an organic carbon source which becomes a nutrient for said second microorganic body; and

5 a second reaction treatment section in which said object to be processed is supplied, supply of a gas containing oxygen to said object to be processed is blocked, and said oxidized nitrogen is reduced and eliminated by said second microorganic body.

10 22. An apparatus for processing an organic chlorine compound according to claim 18,

15 wherein, in said anaerobic treatment section, said object to be processed is supplied, supply of a gas containing oxygen to said object to be processed is blocked, so as to form an anaerobic atmosphere, and said anaerobic atmosphere is maintained.

20 23. An apparatus for processing an organic chlorine compound according to claim 17, further comprising

25 a mixing section of an object to be processed, in which said object to be processed in at least one of said aerobic treatment section, said oxidized nitrogen eliminating section, and said anaerobic treatment section is added by another object to be processed, different therefrom, containing an organic chlorine compound.

24. An apparatus for processing an organic chlorine compound according to claim 15, further comprising a slurry-forming section in which a liquid is added to and

mixed with at least one of said object to be processed, first microorganic body, and second microorganic body, so as to cause at least one of said object to be processed, first microorganic body, and second microorganic body to become 5 slurry.

25. An apparatus for processing an organic chlorine compound according to claim 17, wherein said aerobic treatment section has:

10 a pH adjustment section for adjusting the pH of said object to be processed containing said first microorganic body and reduced nitrogen, and/or a desalting section for adjusting the salt concentration of said object to be processed.